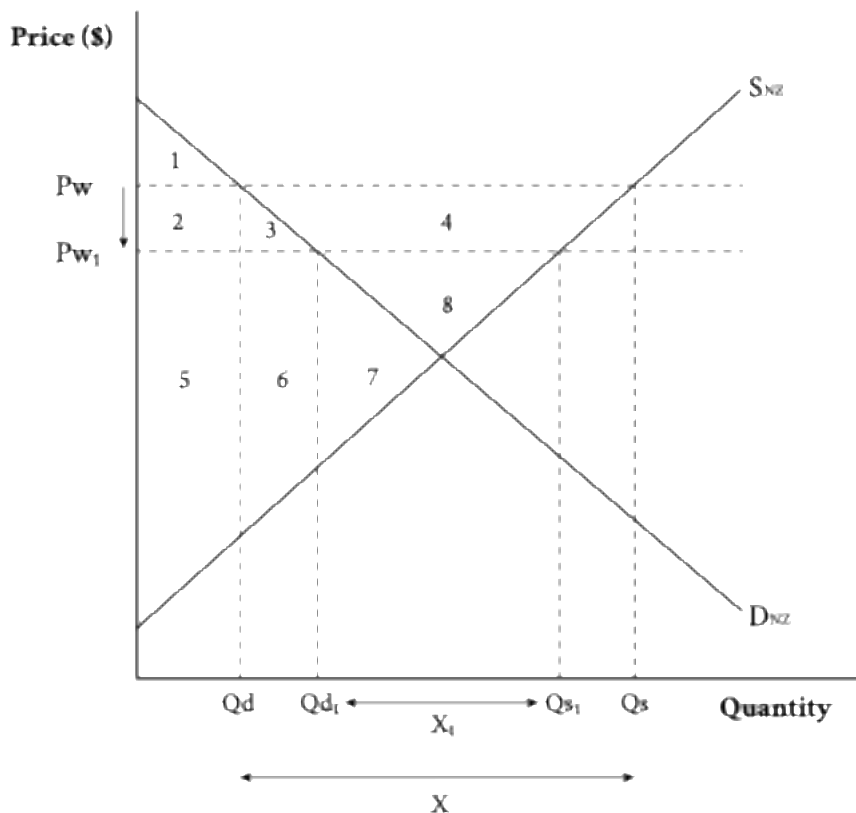


Assessment Schedule – 2025**Scholarship Economics (93402)****Evidence****Question One: Avocados – a tough season for growers**

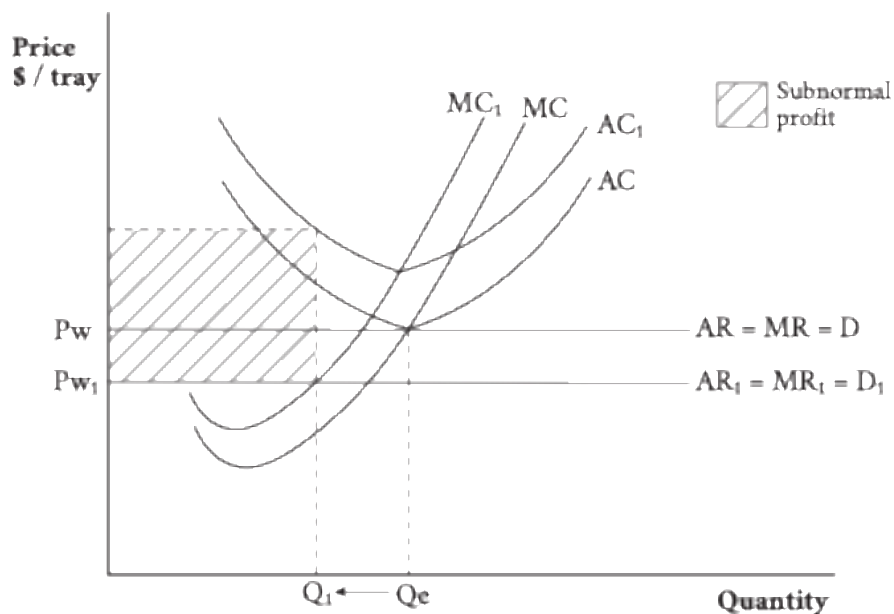
- New Zealand avocado growers can be seen as examples of perfect competition because their products are identical, there are many sellers (at least 1 000), and they are price takers in the market as indicated in Resource A, with the price per tray falling from \$2.48 to \$1.75 for all. Growers are price takers because each is too small to influence the market, and avocados are essentially identical from one grower to the next. They could not be monopolistic competitors because their products are not differentiated, and they have no control over their price, whereas monopolistic competitors have a small degree of control over price due to differentiation. However, avocado growers do not perfectly meet the definition of perfect competition as there are barriers to entry in terms of the costs and know-how involved in setting up an avocado orchard.
- In the world market for avocados, there has been an increase in supply, which has resulted in a fall in the world price for avocados. Since New Zealand avocado growers are price takers, the price at which they can sell their avocados overseas falls from P_w to P_{w1} which reduces the incentive and returns from exports. As a result, New Zealand exports will fall from X to X_1 (Graph One). Total quantity supplied will decrease from Q_s to Q_{s1} as avocados are less profitable, but quantity demanded increases in New Zealand from Q_d to Q_{d1} because avocados become more affordable.

Graph One: The New Zealand avocado market

- In the New Zealand market for avocados, the fall in price from P_w to P_{w1} will increase consumer surplus from area 1 to area 123 in Graph One. This will occur because the reduction in price means that the difference between the price paid by consumers and the price they were willing to pay (the demand curve) has increased, and the quantity consumed has increased from Q_d to Q_{d1} , increasing the quantity from which consumers gain surplus. In contrast for producers, the producer surplus has changed from area 2345678 to area 5678 since the difference between the price they are receiving and the price they were willing to accept (the supply / MC curve) has decreased, and the total quantity being sold has also decreased from Q_s to Q_{s1} . In both cases the market is allocatively efficient because consumer and producer surplus are being maximised, however the total area of consumer and producer surplus has fallen with the loss of area 4.

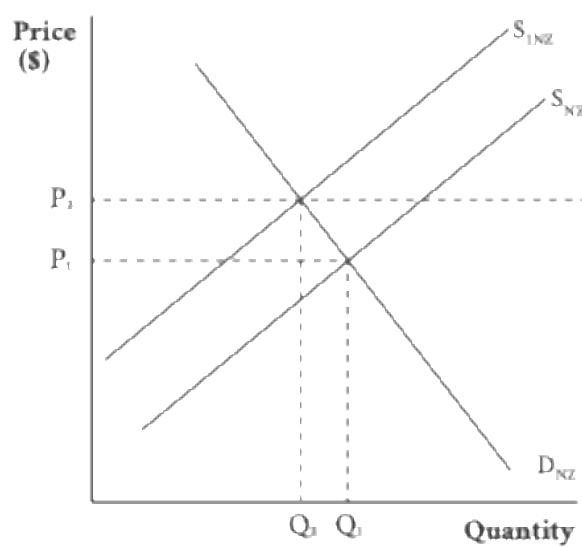
- For the individual avocado grower, the fall in world price means that their average revenue and marginal revenue curve falls from $AR = MR = D$ to $AR_1 = MR_1 = D_1$ (Graph Two). The $AR = MR$ curve is horizontal / perfectly elastic to reflect the fact that they are price takers and can sell all they produce at the world price. As a result of the rising costs of production, the average cost curve will increase or shift upwards from AC to AC_1 . As the increased costs include examples of variable costs such as labour and fertiliser, marginal costs will also increase from MC to MC_1 , since the cost of each extra unit has increased. This will mean that at the original equilibrium quantity Q_e , marginal costs will be higher than marginal revenue, and firms will be making a marginal loss. In response, to maximise profit or minimise losses, growers will reduce output from Q_e to Q_1 where $MR_1 = MC_1$. However, due to both the fall in average revenue and the increase in average costs, at this new output level firms will be making a subnormal profit as AC_1 is greater than AR_1 , which means that in the long run remaining in the industry is not worthwhile. Firms are not able to leave the industry in the short run because at least one factor of production is fixed.
- If P_{w1} were to fall below the minimum average variable cost, then, even in the short run, the grower would shut down as they are unable to cover variable costs and are better off only paying fixed costs.

Graph Two: Individual New Zealand avocado grower

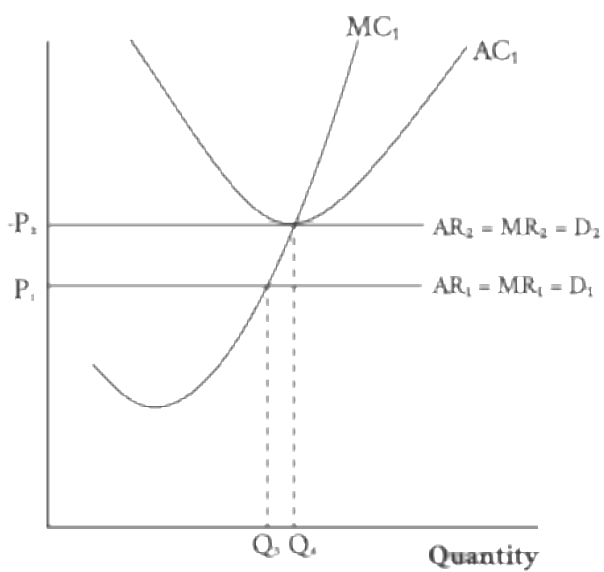


- In the long run, firms earning subnormal profits will leave the industry as better returns can be made elsewhere. This will decrease the supply of avocados in New Zealand from S_{NZ} to S_{1NZ} (Graph Three), which will increase the price of avocados from P_1 to P_2 until $AR = MR = \text{Average Costs}$ for individual growers (Graph Four) and the remaining firms are earning a normal profit again, sufficient to be worthwhile staying in the market. The total supply in the market falls from Q_1 to Q_2 . However, for the remaining avocados, the increase in marginal revenue means that at output Q_3 , MR_1 is greater than MC , so further profits can be made by increasing output to Q_4 where $MR_1 = MC$.
- Since the market price is determined in the world market, it may not impact the price that producers are able to receive, and so further firms may leave the industry until the world price improves. Alternatively, the decrease in supply in the New Zealand market may be enough to reduce supply in the world market or other overseas growers may exit if they too are earning subnormal profits, pushing world prices upwards to a level at which firms remaining can earn normal profit.

**Graph Three: New Zealand
avocado market**



**Graph Four: Individual New Zealand
avocado grower**



Judgement

Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of world avocado market changes on the New Zealand avocado market and evaluates the short- and long-run effects on individual growers. This is complete and demonstrates <i>perception and insight</i> AND demonstrates <i>sophisticated integration and abstraction</i> of the resource material AND demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of the impact of world avocado market changes on the New Zealand avocado market AND is <i>convincing</i> and economically literate.
	7	The essay fulfils many of the requirements above but contains minor factual inaccuracies (when this affects a statement or opinion) OR deals inadequately with an essential point OR lacks sufficient abstraction or integration of the resource material OR has some minor failure in the evaluation OR may lack some fluency and/or coherence.
Scholarship	6	The candidate produces and effectively communicates a sophisticated economic analysis of the impact of world avocado market changes on the New Zealand avocado market and evaluates the short- and long-run effects on individual growers. This demonstrates a high level of <i>analysis and critical thinking</i> AND incorporates a <i>competent level of integration and synthesis</i> of the resource material AND the discussion and evaluation are <i>clear, logically developed, and precise</i>.
	5	The essay fulfils many of the requirements above but has some unsupported generalisations OR some major point in the discussion is neglected or incomplete OR has some inadequacy in the evaluation OR ideas may not be communicated effectively.

No Scholarship	4	The candidate produces a comprehensive analysis of the impact of world avocado market changes on the New Zealand avocado market and evaluates the short- and long-run effects on individual growers. <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
	3	The answer fulfils many of the requirements above but is incomplete <i>OR</i> fails to present a cogent argument or make critical analysis <i>OR</i> does not communicate ideas adequately.
	2	The answer shows limited understanding relevant to the question. Some information is recalled, but ideas are not explained or analysed.
	1	The answer contains a minimal amount of relevant evidence.
	0	No response; no relevant evidence.

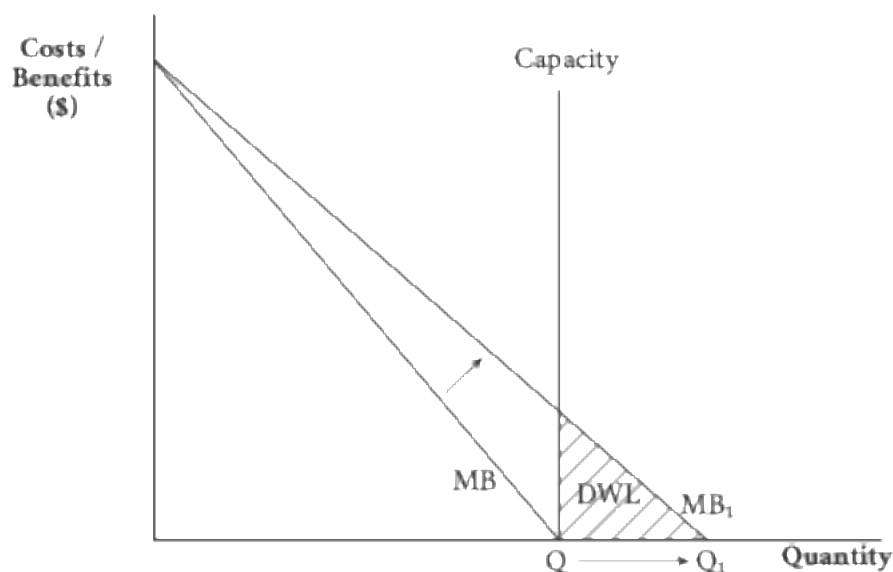
Question Two: Public goods – Auckland roads and allocative efficiency

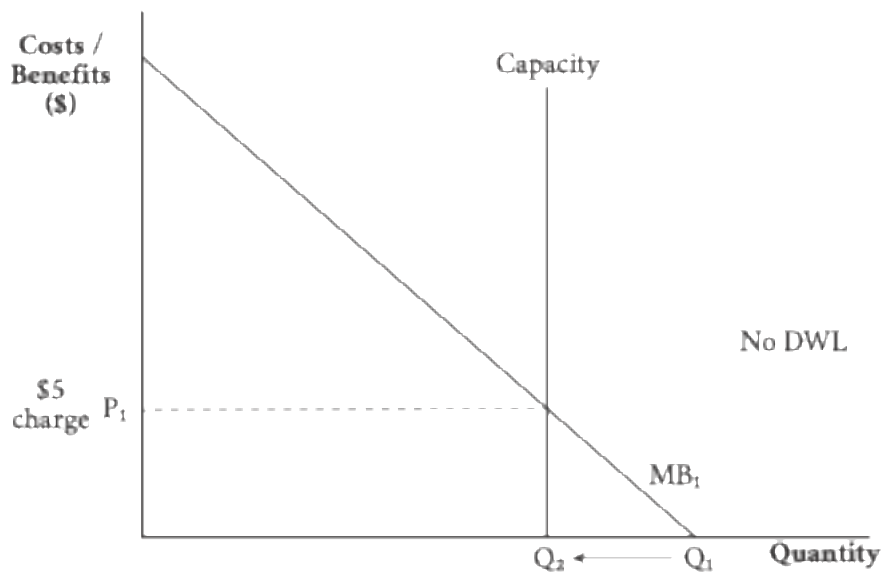
Note: Candidate conclusions may vary and will be marked with reference to relevant, supported, and logical argument.

The characteristics of a public good are non-rival in consumption and non-excludable by price. Non-rival means that when one person uses a good it does not prevent others from using it. The marginal cost (MC) of another person using the roads is zero. Non-excludable by price means the producer cannot prevent people who do not pay using the good. Auckland roads mainly meet the characteristics of a public good. If a car driver uses the road it does not prevent others from using it at the same time. However when too many users are on the roads at the same time, during peak hours, it causes congestion and delays, reducing the quality of experience for road users. A congestion charge could be used to prevent non-payers from using some key routes or an area within a boundary.

- Market failure occurs when the market does not achieve allocatively efficient or equitable outcomes. Before the increase in demand, the market operated where $MB = MC$ at Q . Consumer surplus was maximised at Q and the market was allocatively efficient, with no deadweight loss. An increase in the Auckland population increases the demand for roads, for example freight, school traffic, and commuters. This is shown by a shift to the right of the MB / demand curve from MB to MB_1 (Graph Five). Quantity of road trips consumed increases from Q to Q_1 . At Q_1 a deadweight loss is created as Q_1 is beyond the capacity of the road system. This deadweight loss is a loss of allocative efficiency as $MB_1 > \text{capacity}$. The deadweight loss is estimated at a cost of \$1.3 bn dollars. This is represented by increased waiting times in traffic for commuters, delays in moving freight around, and increased cost of production for firms for transporting goods and people. There is also a cost to the environment of increased CO_2 emissions and pollution. This is represented by the DWL (shaded area) on Graph Five. There is a case for the government to intervene to reduce the market failure and allocative inefficiency in the market for roads.
- A congestion charge can be implemented on key arterial routes, at certain times of day. This increases the price of roads from P_0 to P_1 , for example at \$5. As price of trips increases, quantity demanded decreases, *ceteris paribus*, as it is relatively less affordable. (Graph Six) Some road users will choose to switch to cheaper substitutes, such as public buses and trains, or travel at a time with no congestion charge, reducing the quantity of trips at peak time from Q_1 back to Q_2 . At Q_2 , $MC = MB$ and the market achieves allocative efficiency. The loss of CS is transferred to PS, and the deadweight loss is eliminated. This will be effective at improving traffic flow during peak times. It also provides revenue for the government, which can be used to fund public transport improvements. However this policy may not be equitable. Some road users will not have a choice as to what time they travel if for example they have fixed working hours. Others will not have access to the option of using public transport. For high income users the cost of the congestion charge may not affect their use.

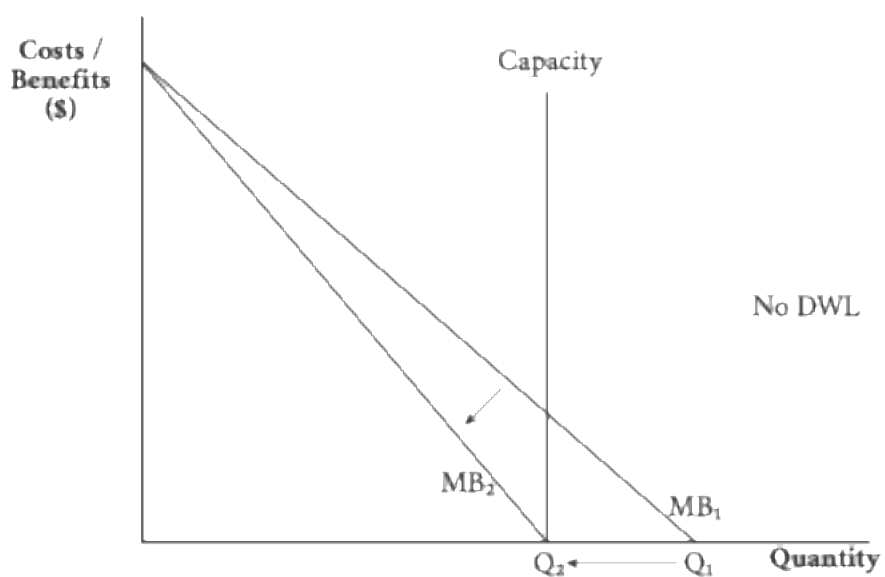
Graph Five: The market for roads



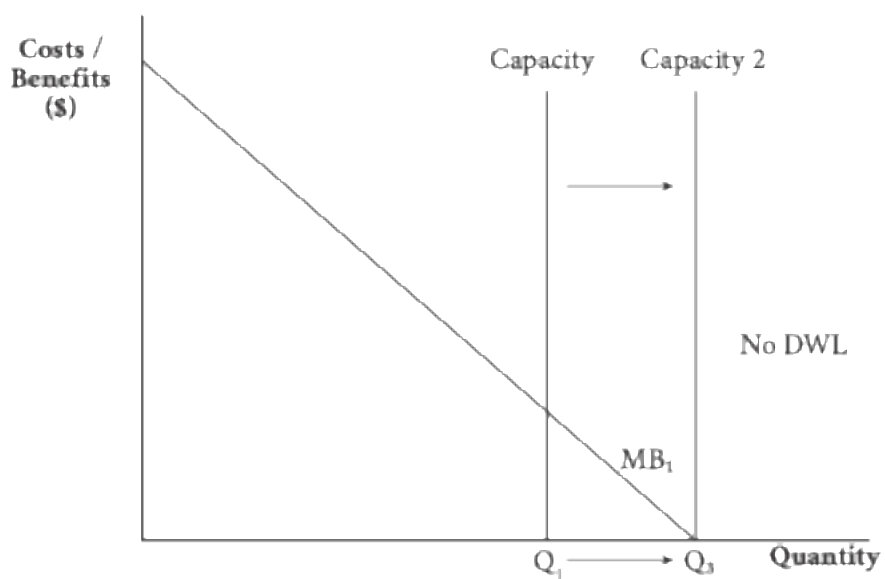
Graph Six: Impact of a congestion charge

- Improving public transport will decrease the demand for road trips, resulting in a decrease in the demand curve from MB_1 to MB_2 (Graph Seven). This can be achieved by increasing the number, reliability, and frequency of the trains and bus network, making public transport more convenient and desirable. As road users switch to public transport, the quantity of trips taken decreases to Q_2 . At Q_2 $MC = MB_2$, the market is allocatively efficient, and the deadweight loss is eliminated. However, it will take time to implement these changes, so it may be more effective in the long run rather than the short run. The effectiveness may also be reduced by the inelastic demand for public transport. This policy will mainly benefit commuters rather than producers, who cannot use public transport to move freight. The cost of implementation can be offset by higher fare revenues. This makes it more equitable.
- Increasing transport infrastructure will allow more vehicles to be on the road at the same time, without causing congestion. This can be achieved by building new roads and arterial highways and introducing more dynamic lanes. The maximum capacity will shift outwards from Capacity to Capacity 2 (Graph Eight). This creates a new equilibrium at Q_3 . As $MC = MB_1$, the market is allocatively efficient. The deadweight loss is removed. This is an effective policy as road congestion decreases. However, there is a cost to the government of building new roads and will take many years to implement. This policy is more effective in the long run than the short run. Individual users will not have to pay for this policy; it will be funded by the taxpayer and there is an opportunity cost for this funding that could be spent elsewhere. It may be inequitable for infrastructure funding to be paid for using taxpayers' money when it only benefits some groups – those who work or live in central Auckland.
- All three policies will improve allocative efficiency for road provision in Auckland, by removing or reducing the deadweight loss. Traffic congestion will be reduced at peak times. However, the most effective in the short run would be the congestion charge, as it can be implemented quickly. Infrastructure changes may actually make congestion worse in the short run. The most equitable policy would be the improvement in public transport, as it could be funded by increased revenue from fares and will give road users more choice and transport alternatives. In the long run, a combination of all three policies would be most effective and equitable, with the revenue gained from the congestion charge being used to fund infrastructure improvements.

Graph Seven: Public transport



Graph Eight: Increased infrastructure spending on roads



Judgement

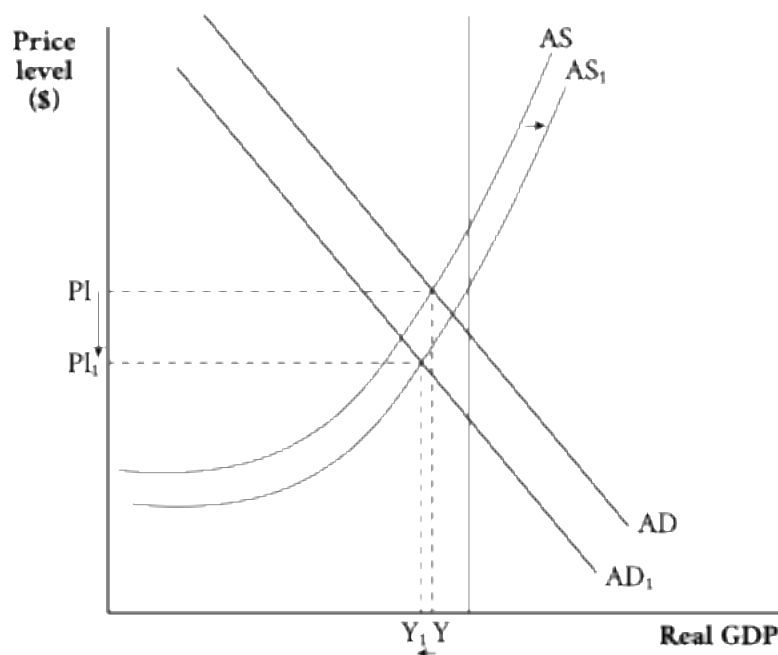
Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the effectiveness and impact of government policies to reduce Auckland traffic congestion on allocative efficiency and equity. This is complete and demonstrates perception and insight <i>AND</i> demonstrates <i>sophisticated integration and abstraction</i> of the resource material <i>AND</i> demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of possible policies to address the effects of traffic congestion in Auckland <i>AND</i> is <i>convincing</i> and economically literate.
	7	The essay fulfils many of the requirements above but contains minor factual inaccuracies (when this affects a statement or opinion) <i>OR</i> deals inadequately with an essential point <i>OR</i> lacks sufficient abstraction or integration of the resource material <i>OR</i> has some minor failure in the evaluation <i>OR</i> may lack some fluency and/or coherence.
Scholarship	6	The candidate produces and effectively communicates a sophisticated economic analysis of the effectiveness and impact of government policies to reduce Auckland traffic congestion on allocative efficiency and equity. This demonstrates a high level of <i>analysis and critical thinking</i> <i>AND</i> incorporates a <i>competent level of integration and synthesis</i> of the resource material <i>AND</i> the discussion and evaluation are <i>clear, logically developed, and precise</i>.
	5	The essay fulfils many of the requirements above but has some unsupported generalisations <i>OR</i> some major point in the discussion is neglected or incomplete <i>OR</i> has some inadequacy in the evaluation <i>OR</i> ideas may not be communicated effectively.

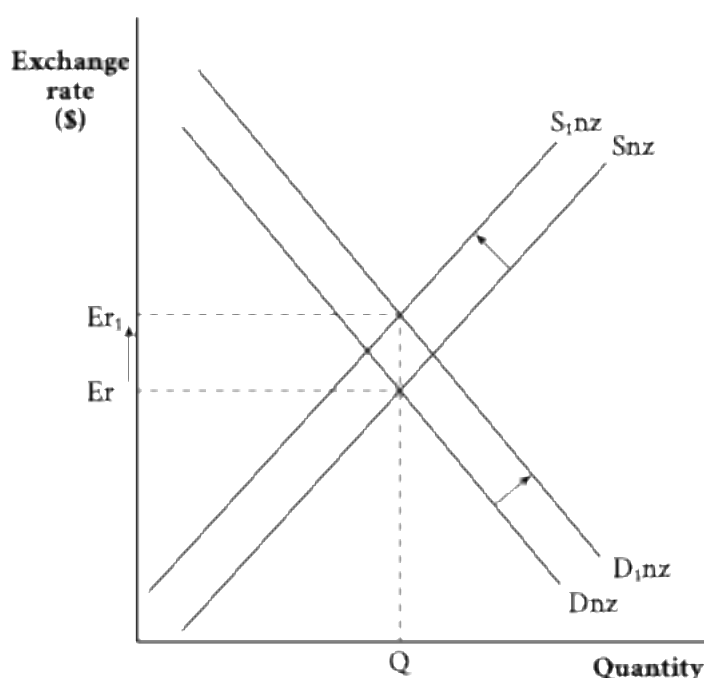
No Scholarship	4	The candidate produces a comprehensive analysis of the effectiveness and impact of government policies to reduce Auckland traffic congestion on allocative efficiency and equity <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
	3	The answer fulfils many of the requirements above but is incomplete <i>OR</i> fails to present a cogent argument or make critical analysis <i>OR</i> does not communicate ideas adequately.
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	1	The answer contains a minimal amount of relevant evidence.
	0	No response; no relevant evidence.

Question Three: Monetary and fiscal policy to reduce inflation

- Persistently high inflation levels throughout 2021 to 2024 resulted in the implementation of contractionary monetary policy in New Zealand. The Reserve Bank Monetary Policy Committee Remit requires the inflation rate to be 1 to 3%, which was less than inflation rates during this period. Therefore, the Official Cash Rate (OCR) was increased from 0.25% in 2021 to 5.5% in 2023 (Resource G) to reduce inflationary pressure.
- An increase in the OCR increases the cost of borrowing and reduces the reward for saving for households. Consumption spending (C) decreases as households have less discretionary income leftover to spend on goods and services. Similarly, investment spending (I) decreases, as the cost of borrowing funds for capital expenditure is less profitable. As both C and I are components of AD ($AD = C + I + G + (X - M)$), AD decreases from AD to AD_1 (Graph Nine).
- With the increase in the OCR, the interest rates and reward for saving funds in New Zealand banks increase, making investments more profitable. There is an increase in demand for the NZ dollar, as overseas investors increase their purchasing of NZ dollars. This is shown by an increase in demand from DNZ to D_1NZ (Graph Ten). Meanwhile, the supply of the NZ dollar decreases as fewer current investors within NZ convert their funds to overseas currency, as overseas investment is relatively less profitable. Supply decreases from SNZ to S_1NZ . The combined impact is an appreciation of the NZ dollar from ER to ER_1 . Each NZ dollar now buys more overseas currency, making exports relatively more expensive and imports relatively cheaper. This reduces net exports ($X - M$), and further reduces AD. In addition, as each dollar buys more overseas currency, the cost of imported raw materials and cost of production decreases for producers, making production more profitable. This is shown by a shift to the right of the AS curve from AS to AS_1 .

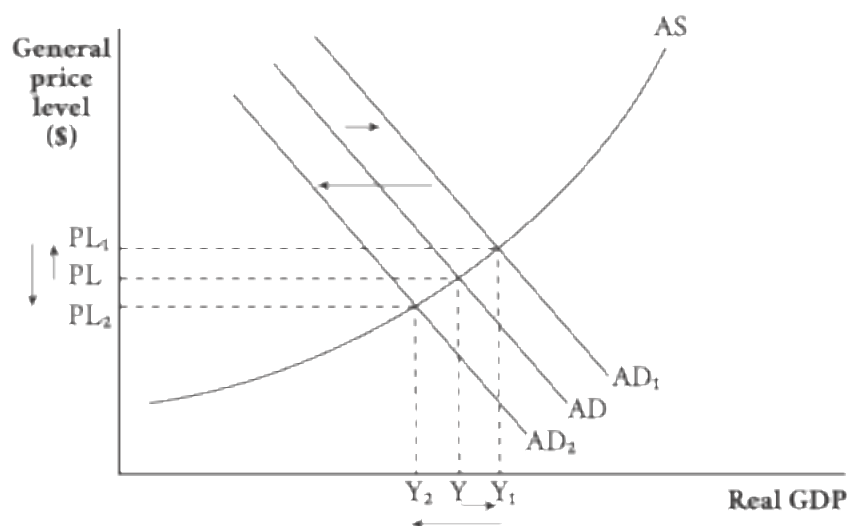
Graph Nine: AS / AD model of the New Zealand economy



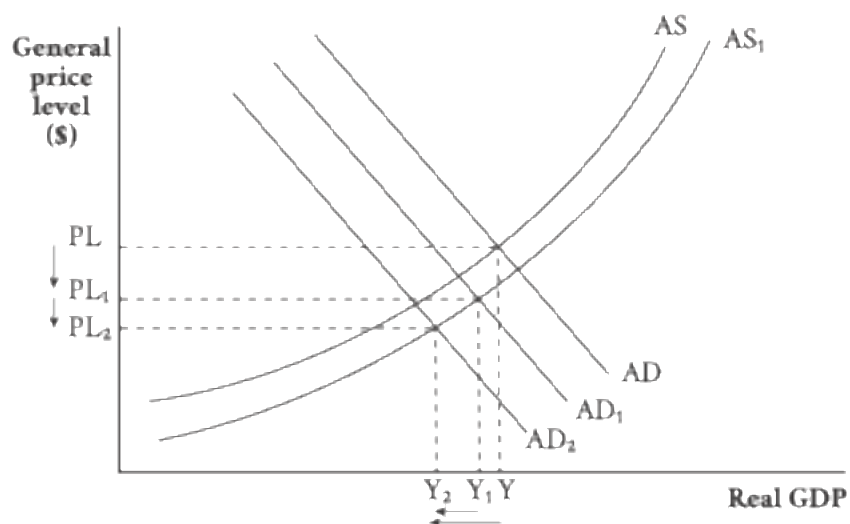
Graph Ten: The market for the NZ\$

- Contractionary monetary policy is effective in reducing inflation rates as both the decrease in AD and increase in AS cause a decrease in the price level from PL to PL₁.
- A reduction in income tax for households causes AD to increase from AD to AD₁, as households have more disposable income (income – tax – saving = spending), and consumption spending (C) increases. A decrease in government spending (G) results in a decrease in AD from AD to AD₂, as $AD = C + I + G + (X - M)$.
- The combined impact of both policies could be uncertain for the inflation rate. If the increase in C is greater than the decrease in G, then the impact on the price level will be inflationary (AD increases to AD₁ in Graph Eleven). However, if the decrease in G is greater than the increase in C, then the price level will decrease (AD decreases to AD₂).
- The impact on consumption spending will be affected by a household's marginal propensity to consume. Resource J estimates this at 0.16. A household's MPC is lower than 1 as 84% of additional income will be saved ($MPC + MPS = 1$). Households are encouraged to save due to high interest rates. This means that even if the increase in income tax equals the decrease in government spending, AD decreases overall, and the policy will be disinflationary. This is shown by AD decreasing to AD₂ and PL to PL₂ in Graph Eleven. This is because government's $MPC = 1$ (Resource I), so due to the relative multiplier effects, the decrease in government spending will outweigh the increase in consumption spending. The increase in real GDP (final injection) caused by tax cuts will be less than the decrease in real GDP caused by reduced government spending cuts. Alternatively, candidates could argue that, with a multiplier calculated at 1.19 ($1/(1 - MPC) = 1/0.84$), the increase in tax cuts will outweigh the decrease in government spending, though this is a less convincing argument.
- A combination of contractionary monetary policy and fiscally neutral tax relief should be effective in reducing persistently high inflation rates (Graph Twelve). Contractionary monetary policy both reduces AD (AD to AD₁) and increases AS (to AS₁) reducing the price level from PL to PL₁. If the size of tax cuts equals the decrease in government spending, AD₁ will further decrease to AD₂. Final equilibrium is created at PL₂ and Y₂. As both policies decrease the price level, the inflation rate decreases from PL to PL₂ but at the cost of economic growth.

Graph Eleven: The New Zealand economy



Graph Twelve: Effects of contractionary monetary policy and fiscally neutral tax relief



Judgement

Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the effectiveness of using a combination of monetary and fiscal policies to reduce high inflation rates in the New Zealand economy. This is complete and demonstrates perception and insight <i>AND</i> demonstrates <i>sophisticated integration and abstraction</i> of the resource material <i>AND</i> demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of the effect on the New Zealand economy <i>AND</i> is <i>convincing</i> and economically literate.
	7	The essay fulfils many of the requirements above but contains minor factual inaccuracies (when this affects a statement or opinion) <i>OR</i> deals inadequately with an essential point <i>OR</i> lacks sufficient abstraction or integration of the resource material <i>OR</i> has some minor failure in the evaluation <i>OR</i> may lack some fluency and/or coherence.
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No Scholarship	4	The candidate produces a comprehensive analysis of the effectiveness of using a combination of monetary and fiscal policies to reduce high inflation rates in the New Zealand economy <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
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Cut Scores

Scholarship	Outstanding Scholarship
14–20	21–24